CLAIMS

1. A method of measurement of proximity of a second contour (CM) to a first contour (CI), comprising for each point (I_k) of the first contour, a step of association with a point (M_i) of the second contour determined as the closest, characterized in that it comprises a step of pairing each point of the second contour with one or zero points of the first contour, by determining the point of the first contour which is closest from among the set of points of the first contour that are associated with said point of the second contour.

2. The method as claimed in claim 1, characterized in that the determination of a point that is closest to a given point is based on a true or discrete measure of the Euclidean distance between the two points.

3. The method as claimed in claim 2, characterized in that it comprises a step of allocating a measure of proximity Dist(M_i) of each point M_i of the second contour (CM) to the first contour (CI), based on the measurement of the distance from this point to the point of the first contour with which it is paired.

4. The method as claimed in claim 3, characterized in that said distance measure is a measure corrected as a function of the difference of class of orientation of the points of the pair considered.

5. The method as claimed in any one of claims 1 to 3, characterized in that in the step of associating zero or one points of the second contour with each point of the first contour, the point that is closest from among the points of the second contour which have the same class of orientation as said point of the first contour is associated.

6. The method as claimed in any one of claims 1, 2, 3, or 5, characterized in that the associating step uses a chamfer map of the second contour via which, at each point of the first contour with coordinates x and y applied as input, said map provides as output an identification ($S_0(x,y)$) of the

point of the associated second contour and a measure ($S_1(x,y)$) of the proximity between the two points thus associated.

7. The method as claimed in claim 6 in combination with claim 5, characterized in that with the second contour is associated a chamfer map per class of orientation, and in that for each point of the first contour, the associating step comprises a step of determining the class of the point of the first contour, so as to apply the coordinates (x,y) of this point as inputs to the chamfer map corresponding to said orientation class.

8. The method as claimed in any one of claims 4 to 7, characterized in that it uses eight orientation classes.

9. A method of automatic identification of targets in an image of extracted contours (CI) which is defined by an image contour, characterized in that it applies a method of measurement of proximity according to any one of claims 1 to 8, by applying as second contour, a template contour (CM) and as first contour, said image contour (CI), so as to obtain the measure of proximity $Dist(M_i)$ of each point of said template contour to said image contour.

10. The method of identification as claimed in claim 9, characterized in that it comprises the allocation of a local score of proximity $N(M_i)$ to each point M_i of the template contour as a function of the measure of proximity $Dist(M_i)$ of this point, according to the following criteria:

-$N(M_i)$ has a value lying between 0 and 1.

-$N(M_i)$ =0, when said point is paired with zero points of the first contour;

-$N(M_i)$ = 1, when the proximity measure is equal to zero;

-$N(M_i)$ has a value of about 1 when the proximity measure lies between 0 and 1 pixels.

-$N(M_i)$ decreases very rapidly to 0 as soon as the proximity measure becomes greater than 1 pixel.

-$N(M_i)$ decreases according to a curve having a point of inflexion, in the neighborhood of a proximity measure of about 2 pixels.

-$N(M_i)$ has a quasi-zero value as soon as the proximity measure becomes greater than 3 pixels.

11. The method of identification as claimed in the preceding claim, characterized in that the function for allocating the score of proximity to the point M_i may be written: $N(M_i)=\left(0.5 - \arctan \frac{4(\mathrm{Dist}(M_i) - 2)}{\pi}\right)\frac{1}{0.9604}$.

12. The method of identification as claimed in claim 10 or 11, characterized in that it comprises a step of measuring a global score η equal to the mean of the proximity scores relative to the number of points of the template contour (CM).

13. The method of identification as claimed in any one of claims 9 to 12, characterized in that it is applied successively to each of the template contours of a collection of template contours.

14. The method of identification as claimed in claim 13, characterized in that said collection is obtained from another method of identification of targets, such a method using a Hausdorff distance measure.

15. The method of identification as claimed in claim 13 or 14, characterized in that it comprises a step of selecting hypotheses by comparison with a threshold of each of the global scores η allocated to each of the template contours.

16. The method of identification as claimed in claim 15, characterized in that said threshold is fixed at 0.6.

17. The method of identification as claimed in one of claims 15 or 16, characterized in that it comprises a step of discriminating between hypotheses of template contours which are superimposed, comprising for each pair of a first contour hypothesis (CM_1) and of a second contour hypothesis (CM_2) which are superimposed, a step of weighting the global score allocated to each of the template contours, said weighting step

comprising the application of the method of measurement of proximity as claimed in any one claims 3 to 8:

-a by applying as second contour, the contour of said first hypothesis and as first contour, the contour of said second hypothesis, said proximity measure Dist($M1_i$) obtained for each point ($M1_i$) of contour (CM_1) of the first hypothesis being applied as weighting factor X($M1_i$) for the local score of proximity (N($M1_i$)) of this point to the image contour (CI), and by deducing the global score (η_1) associated with the first contour hypothesis representing its proximity to the image contour by calculating the mean of said weighted local scores,

-b by applying as second contour, the contour of said second hypothesis and as first contour, the contour of said first hypothesis, said proximity measure Dist($M2_j$) obtained for each point ($M2_j$) of contour (CM_2) of the first hypothesis being applied as weighting factor X($M2_j$) for the local score of proximity (N($M2_j$)) of this point to the image contour (CI), and by deducing the global score (η_2) associated with the first contour hypothesis representing its proximity to the image contour by calculating the mean of said weighted local scores.

18. The method of identification as claimed in claim 17, characterized in that it adopts as best hypothesis of template contour, from among a plurality of hypotheses which are superimposed, that with which the best global score is associated.

19. A system for the automatic identification of an object in an image of contours, comprising a database containing templates of determined objects to be recognized, and means of calculation, said means of calculation being configured so as to compare contours, characterized in that said means of calculation are configured so as to perform the steps of a method of identification as claimed in any one of claims 9 to 18.